A COLLECTION OF BEES FROM QUEENSLAND.

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THE object of the present paper is to report on a very interesting series of bees from Queensland, collected by Mr. H. Hacker, and kindly rensmitted to me by Dr. R. Hamlyn-Harris. They are all represented by specimens in the Queensland Museum.

PROSOPIS Fabricius.

	Scutellum and pestscu'ellum yellow	• •	••	••					1.
	Soutellum and postscutellum dark Abdomen greenish blue (139, Bribie I., 2.11.13) Abdomen black Face-marks white or creamy white	• •			• •		• •		6.
1.	Abdomen greenish blue (139, Bribie I., 2.11.13)					p	erplexa	Sm.,	Ŷ.
	Abdomen black						·		2.
2.	Face-marks white or creamy white								3.
	Face-marks yellow								4.
3	Clypeus mainly white (130, Brisbane, 6.10.14)					ureomo	culata	Ckll	1
	Clypeus black with a small white mark (144, Su								
	crypeus brack while a blickly white likelik (111, be	anyo		Djourie	, 1a	ureoma	culata	Ckll	9
4.	Face extremely narrow (146, Darra, 14.10.13)			aur	eomaci	ilata Cl	sll., đ	. varie	tv.
	Face broad								5.
5.	Mesothorax extremely finely punctured (142, O	slev.]	Brishane	e. at L	entosne	ermum.	8.9.14)	
	frederic	i Ckll.	, 2, va	riety v	vith lat	teral fa	ce-mai	, cks sho	ort.
	Mesothorax coarsely punctured (143, Brisbane,	9.9.12)			oł	otusata	Sm.,	ç.
6.	Mesothorax coarsely punctured (143, Brisbane, Abdomen blue		·	• •					7.
	Abdomen black								10.
7.	Face below antennæ white or creamy white righ								
	Face below antennæ not white right across								8.
8.	Clypeus yellow, margined with black (128, Strad	dbrok	e I., 2.1	0.11)		dis	juncta	Ckll.,	3.
	Clypeus black								
9.	Tubercles marked with creamy white, not con	ntinuc	us with	ı the	white	marks	on pr	othora	cie
	border (140, Sunnybank, Brisbane, 17.9.14)								
	Tubercles bright yellow, the colour continuous								
	6.10.14)								
10). Greater part of femora yellow								
	Femora mainly or wholly dark								
11	1. Mandibles yellow (131, Brisbane, at Leptosper								
	Mandibles black (136, Brisbane, 6.10.14)								
12	2. Tubercles white or very pale yellow					/			13.
	Tubercles bright vellow								14.
15	3. Face below antenna: very pale yellow right ac	ross (]	29. Oxl	ev. Br	isbane	. 17.9.1	4)		
		(-	,	- , ,		perh	umilis	Ckll.,	3.
	Clypens black, lateral face-marks white (145, 1	Brisba	ne, 13.1	0.14)		ebur	niella	Ckll.,	ç.
14	1 Vellow hand on prothorax interrupted (137-1	38 Br	rishane	at Les	ntosner	mum. f	10.14)	
			(Gnatho	prosop	is) ĥac	keri Cl	dl., 3	and	₽.
	Yellow on prothorax continuous				• •	• •	• •		15.
14	5. Face all black (151, Caloundra)		• •			melan	ops Ck	ll., n.	sp.
	Face with yellow lateral marks (132, 133, Bris	bane,	6.10.14)	• •		a	micula	Sm.,	q.

Gnathoprosopis hackeri Cockerell.

The female runs in my table in Ann. Mag. Nat. Hist., Feb. 1910, p. 137, to 35, and runs out because the clypeus is wholly black and the lateral face-marks are pale lemon-yellow, contrasting with the deep orange-chrome of the prothorax. The legs are black, with the anterior tibiæ pallid in front, and the hind tibiæ cream-coloured at base.

The following key contrasts the male of G. hackeri with those of two other recently described species :—

Sc	ape greatly swollen, mandibles	pale	• •		• •	• •	 	rowlandi Ckll.
\mathbf{Sc}	ape ordinary	• •	• •	• •	• •		 	I.
I. Ma	ndibles black, face broader		• •	••			 • •	hackeri Ckll.
Ma	ndibles yellow, face narrower	• •			· · ·		 	euxantha Ckll.

Gnathoprosopis amicula (Smith).

The male is close to G. asinella (Ckll.), but the colour of the face agrees with that of *Prosopis primulipicta*, and the tegulæ are wholly dark. Both this and amiculiformis run out at primulipicta in the table just cited, but they differ conspicuously as follows :—

The male *amicula* agrees with *asinella* in having the abdomen beneath without tubercles or ridge.

Prosopis eburniella Cockerell.

The female differs by having the clypeus, supraclypeal area, and hind tarsi wholly black. In the Brisbane female the lateral face-marks have the upper inner side distinctly longer than the lower, and are whiter than those of the male. The male is from Sydney, and it is quite possible that when both sexes have been collected in both localities the Brisbane insect will be found to be subspecifically distinct. *Euryglossa albocuneata* Ckll., which is hardly a true *Euryglossa*, seems to be somewhat related to *P. eburniella*.

Prosopis melanops n. sp.

Q. Length about 7 mm.; black, with the tubercles and an extremely heavy callus over the prothorax (separated from tubercles by a slight interval) very bright orange-chrome; face entirely black; flagellum, except basally, ferruginous beneath; clypeus dull and sericeous; front very distinctly punctured; mesothorax extremely finely and closely punctured; scutellum shining, with the minute punctures more separate; basal area of metathorax ill-defined, without distinct sculpture, the margin of the apical truncation shining; tegulæ piceous; wings dilute fuliginous or pale brownish, second submarginal cell long, receiving both recurrent nervures; legs black, middle tibiæ and tarsi with shining pale hair on inner side; abdomen dullish, the punctures excessively minute.

Hab.: Caloundra, Queensland, Sept. 28, 1913 (*Hacker*). Related to *P. flavo-jugata* and *P. kelvini*, but known by the entirely black face. The following table separates the females of the three species :—

First abdominal segme	nt very	smooth	and	polished	, cor	ntrasting	with	\mathbf{the}	others,	which	are
suffused with blue				- · ·	• •		••		flavoj	'ugata (Ckll.
First segment not thus	polished	l, and th	e otł	ers not a	t all	blue					1.

1.	Postscutellum with white tomentum; wings not brown	 • •	• •	kelvini Ckll.
	Postscutellum without tomentum; wings brown	 	• •	melanops Ckll.

PACHYPROSOPIS Perkins.

Pachyprosopis hackeri n.sp.

Q. Length a little over 5 mm.; robust, black, moderately shining; labrum, mandibles (except apex), anterior tibiæ, and all the tarsi ferruginous; head broad and thick, subquadrate, extremely feebly and minutely punctured; the broad front is dullish, and very faintly greenish; flagellum very short, dull ferruginous beneath; mesothorax and scutellum like the front; base of metathorax smooth and shining; tegulæ black; wings hyaline; stigma large, piceous, veins brown, second submarginal cell with the shape typical of the genus; abdomen broad, without distinct punctures.

Hab.: Oxley, Brisbane, Sept. 24, 1914 (Hacker 150). Related to P. angophoræ Ckll., but in that species, in addition to the colour differences, the mesothorax is very much more closely and distinctly punctured. P. atromicans Ckll. is much smaller, and has the first recurrent nervure meeting the first transversocubital, whereas in P. hackeri the first recurrent joins the first submarginal cell as far from its apex as the second recurrent from the apex of the second submarginal.

EURYGLOSSA Smith.

	Thorax yellow, marked with black (159, Brisba	ane, 6.1	0.14)			ft	lavopicta S	mith.
	Thorax black							. 1.
1.	Abdominal segments with marginal pale tegun	nentary	bands	(156,	162,	Oxley,	Brisbane,	Sept.
	1914; Sunnybank, Brisbane, 3.10.12, at flo	wers of	Jackso	mia sce	opari	a R.Br.)	
					•	(chrysoceras	CkII.
	Abdomen without such bands							. 2.
2.	Abdomen red (161, Oxley, Brisbane, 24.9.14)					• •	edwardsii	CkII.
	Abdomen black (168, Oxley, Brisbane, 17.9.14)						neglectula	Ckll.

Euryglossa flavopicta Smith.

The specimen (\mathcal{Q}) possibly represents a variety, but Smith's description is rather too short. The mandibles are yellow, broadly rufofuscous apically; lateral black stripes running down orbital margins some distance from the transverse band on vertex, of which they are the continuation; black bands going downwards from lateral ocelli very broad, but not reaching antennal sockets; scutellum with two dark spots, but no band, though there is a black band in suture between scutellum and postscutellum; area of metathorax black, except a very large median yellow patch, which divides the black (except along extreme base) into two triangular areas; abdomen with four broad dark bands, and a narrow transverse discal band on first segment; fifth and sixth segments yellowish brown, not banded. The nearest relative is *E. brachycera* Ckll., from Townsville.

Euryglossa edwardsii Cockerell.

This seems to be essentially identical with one of the forms (β) of *E. variabilis* Perkins, a species described six years later than *edwardsii*. The posterior corners of the abdominal tergites (overlapping the venter) are broadly colourless.

Euryglossa neglectula Cockerell.

Described from a specimen labelled "Australia"; a precise locality was not known until the species was rediscovered by Mr. Hacker.

PARACOLLETES Smith.

Paracolletes ornatissimus n. sp.

Q. Length about 8-5 mm.; head and thorax yellow-green, bluish green on pleura and metathorax; elypeus and supraclypeal area black (more or less edged with rosy), very smooth and shining, the clypeus with strong well-separated punctures; mandibles black faintly reddish subapically; flagellum obscure brown beneath, becoming clear red at apex; face and checks with dull white hair, vertex with fuscous; mesothorax closely but shallowly punctured, dull and granular, the posterior disc shining; area of metathorax with delicate raised lines; hair of thorax above pale ferruginous; tegulæ piceous; wings clear, stigma lanceolate, amber colour; legs black, with the hind tibiæ and all the tarsi red; scopa of hind tibiæ large, dark fuscous on outer side, otherwise white; abdomen shining but not polished, not evidently punctured, bright peacock green shading posteriorly into brilliant lilacpurple, the first segment crimson shading posteriorly into purple; caudal fimbria black; venter with long pure white hair.

 δ . Head and thorax dark bluc-green, suffused with yellowish green on the front; flagellum long, entirely dark; abdomen peacock-green, the first segment erimson, shading through purple into green posteriorly; all the knees, tibiæ and tarsi, and hind femora except at base, chestnut-red; hair of head and thorax above strongly suffused with blackish.

Hab.: Oxley, Brisbane, Sept. 24, 1914 (Hacker). The female is the type. Close to P. semipurpureus (Ckll.), of which it may be a brilliantly coloured race, but I have seen semipurpureus from various localities, and never such a form as that now described. The male resembles P. plumosellus Ckll., but differs by the black tegulæ. From P. plumosus Sm. the new form is easily known by the nuch smaller size. P. bicolor Sm. is the male of plumosus, as Mr. Meade-Waldo has determined. P. amabilis Sm. is also allied. Australian students may determine by field studies that P. ornatissimus is not entitled to specific rank, but such a beautiful form deserves a name, which can then be used in a varietal or subspecific sense. The species bears Hacker's number 147.

NOMIA Latreille.

Nomia gracilipes Smith.

A female from Darra, Brisbaue, 10.3.14 (153). The last three abdominal segments are chestnut-red, much brighter than I have previously seen in this species; the first three segments are blue.

PARASPHECODES Smith.

Thorax clear ferruginous						 		aurantiacus Ckll.
Thorax black								
1. Abdomen brown						 ••		bribiensis Ckll.
Abdomen wholly or partl								
2. Abdomen entirely red	••					 		speculiferus Ckll.
Abdomen with only the f	irst th	ree segr	nents i	red	• •	 	• •	leptospermi Ckll.

Parasphecodes aurantiacus n. sp.

Q. Length 8 mm.; head black, with the lower half of elypeus obscure testaceous, labrum ferruginous, mandibles ferruginous with the bidentate apex black; elypeus shining, with sparse large punctures; front dull and granular, shining at extreme sides; scape fulvous, flagellum dark brown, redder beneath; hair of head short and scanty, pale; thorax, tegulæ, and legs entirely bright orange-fulvous, without markings, the thorax with scanty pale yellowish hair; mesothorax very minutely and indistinctly punctured; area of metathorax with a median triangular dull area; scutellum bigibbous, much lighter and yellower than mesothorax; wings dusky hyaline, darker at apex; second submarginal cell large; first recurrent nervure meeting second transversocubital; hind tibiæ and tarsi with stiff golden hair, blackish on upper (posterior) side of tibiæ: hind femora with a large curled scopa of very pale yellowish hair; abdomen shining, very finely and obscurely punctured, the first three segments clear orange-fulvous, the others black, with dark hair.

Hab.: Brisbane. May 28, 1914 (*Hacker* 160). A very distinct and peculiar species, allied to *P. contaminatus* Ckll. from Cairns, but readily known by the entirely orange-fulvous thorax.

Parasphecodes bribiensis n. sp.

Q. Length 8 mm. or a little more ; rather long and narrow; head and thorax black, abdomen dark reddish brown, the apical two segments suffused with black ; legs piceous, the anterior tibiæ with a clear ferruginous patch on inner side (about basal two-thirds), beset with long reddish hair ; hair of head and thorax dull white, scanty ; head broad ; mandibles with apical half red ; clypeus polished, sparsely and weakly punctured ; antennæ entirely dark ; tubercles prominent ; mesothorax and scutellum densely and finely granular-punctate ; area of metathorax finely granular, with weak irregular wrinkles ; sides of metathorax pruinose with fine greyish white tomentum ; posterior truncation small, depressed in middle ; tegulæ pale rufo-testaceous ; wings strongly reddened, stigma and nervures dull red ; second submarginal cell broad ; first recurrent nervure meeting second transversocubital ; outer recurrent and transversocubital weakened ; hind femora slender, with a curled scopa ; hair on upper side of hind tibiæ fuscous ; abdomen shining, without evident punctures, first two segments each with a transversely oval polished swelling in each sublateral area ; no hair-bands or patches.

Hab.: Bribie Island, Nov. 2, 1913 (*Hacker* 91). A peculiar species, known from other *Parasphecodes* by the brown abdomen, with oval bosses on the first two segments. It could be regarded as a species of *Halictus*, and would then fall as follows in a table of species having the mesothorax black, and the abdomen red or brown, or largely so :—

1.
2.
3.
doddi Ckll.
dulus Ckll.
lurus Ckll.
ensis Ckll.

Parasphecodes speculiferus Cockerell.

Q. Length 7 mm.; robust, with short broad abdomen; head, thorax, and legs black. Abdomen entirely chestnut-red, with a vague purplish tint; hair of head and thorax greyish white, stained with blackish dorsally; head broad; mandibles reddened only at extreme apex; clypeus shining, with strong sparse punctures; antennæ black, the flagellum (except basally) very obscurely brownish beneath; front extremely densely and minutely punctured; mesothorax dull, densely and minutely rugosopunctate, gibbous in front; scutellum a little more shining, with a median depression; area of metathorax with rather weak plice, failing distally; tegulæ brown with pallid margins; wings hyaline, slightly dusky, the apex darker; stigma and nervures dusky reddish brown; second submarginal cell rather small, third very large; first recurrent nervure meeting second transversocubital; outer recurrent and transversocubital weakened; hair of legs fuscous on outer side, pale on inner, the middle tibiæ with a stiff pale orange brush near apex; abdomen with the first segment and basal half of second very distinctly though very minutely punctured, the parts beyond with only scattered piliferous punctures; no hair-bands or patches; apex with fuscous hair; venter with shining white hair.

Hab.: Oxley, Brisbane, at Leptospermum, Sept. 8, 1914 (Hacker 148). P. speculiferus was described in 1912 from Victoria; I give a new description from the Brisbane specimen. The species is somewhat variable.

Parasphecodes leptospermi n.sp.

Q. Length about 9.5 mm., expanse fully 17; robust; head, thorax, and legs black; abdomen with the first two segments bright chestnut-red, the third more dusky, but still red, the others black; head broad; mandibles black; elypeus brilliantly shining, with scattered punctures; front rough but glistening; antennæ dark, the flagellum reddened at tip; hair of head and thorax dull white, much blackened dorsally; mesothorax finely and extremely densely.punctured; scutellum bigibbous, the elevations shining though punctured; area of metathorax with weak irregular rugæ; tegulæ rufopiceous, with the anterior margin pallid; wings dusky hyaline. darker apically; first recurrent nervure joining apical corner of the large second submarginal cell; middle femora with a brush of red hair beneath at base; abdomen with first segment, and second except apical depression, finely and distinctly punctured.

Hab.: Oxley, Brisbane, at Leptospermum, Sept. 8, 1914 (Hacker 149). Allied to P. speculiferus, but easily known by its large size and black apical segments of abdomen. It appears to be closest to P. hybodinus Ckll., described from a male collected in Victoria, but on comparing specimens I do not think they are the sexes of the same species. There is also some resemblance to P. tilachus Smith.

HALICTUS Latreille.

	Mesothorax green												1.
	Mesothorax black												3.
1.	Abdomen red, mark	ed with	n black	(163,	Brisban	ne, Sept	. 1914)			p	unctatus	Smi	ith.
	Abdomen not at all	red											2.
2.	Abdomen green (16	4, 169,	Brisbaı	ne, 1.9	.14; 0	xley, B	risbane	, Sept.	1914)		dampie	eri C	kll.
	Abdomen black or									nb in g			
											urbanus	Smi	ith.
3.	Females		• •	• •	• •	• •			30	emipoĩ	itus Ckll	., n.	sp.
	Males												4.
4.	Tegulæ rufous									reperti	<i>lus</i> Ckll	., n.	sp.
	Tegulæ black									bursa	rice Ckll	., n.	sp.

Halictus semipolitus n. sp.

Q. Length about 5.5 mm., anterior wing scarcely over 4; black, including legs, with scanty greyish white hair, not forming patches or bands on abdomen; mandibles with a dark red subapical band; flagellum obscure red apically; tegulæ dark reddish; wings strongly smoky, stigma dark brown, nervures sepia; anterior

knees red; front dull, shining at extreme sides; mesothorax shining, especially posteriorly, the scattered punctures extremely minute and hardly visible; area of metathorax dull, covered with fine wrinkles; venter of abdomen with long white hair, in which pollen is collected.

Microscopical characters: Front as densely punctured as possible; mesothorax minutely tessellate, with scattered piliferous punctures; area of metathorax irregularly reticulate; first abdominal segment finely punctate; second with basal third punctate, the rest transversely striate; hind spur with few long teeth.

Hab.: Bribie Island, type taken 2.11.13 (*Hacker* 117). Another, with same data, bears number 167. Close to *H. blackburni* Ckll., but mesothorax and metathorax different. The area of metathorax is entirely different from that of *H. sturti* Ckll. Among the Tasmanian species it falls near the much larger *H. furneauxi* Ckll.

Halictus bursariæ n. sp.

δ. Length 6 mm. or slightly over ; rather robust, shining black, with scanty dull white hair, which forms small inconspicuous patches at lateral bases of second and third abdominal segments ; mandibles black, very obscurely reddish subapically ; elypeus shining, with well-separated punctures, and an obscure yellowish transverse band ; face with thin white hair ; front dull ; antennæ long, entirely dark, the flagellum crenulated beneath ; mesothorax shining, polished, distinctly though not densely punctured; scutellum with the two shining slight elevations almost impunctate; area of metathorax minutely wrinkled, the margin shining ; tegulæ black ; wings hyaline, faintly dusky, stigma dusky reddish, nervures sepia ; first recurrent nervure joining apical corner of second submarginal cell ; legs black, the small joints of tarsi ferruginous, and the middle and hind basitarsi obscure reddish ; abdomen very finely punctured, hind margins of segments not discoloured ; apical segments with rather long pale hair ; a broad red apical plate ; fourth ventral segment heavily fringed with white hair, the margin of the fringe emarginate.

Microscopical characters : Front extremely closely punctured, the punctures subconfluent; mesothorax well punctured, on a smooth (not tessellate) surface; area of metathorax with labyrinthiform wrinkles; second abdominal segment with piliferous punctures.

Hab.: Brisbane, Jan. 10, 1913, at flowers of Bursaria spinosa, Kelvin Grove (Hacker 93).

In a table of more or less similar males, this is separated as follows :----

Tibiæ red, more or l	less s	uffused	with o	lusky (1	l'asmar	nia)	• •	••	• •	isthmails Ckll.
Tibiæ dark				• •		• •	• •		• •	l.
1. Mesothorax shining										
Mesothorax dull	••	• •	• •	• •	•••	• •	••	•••	••	idoneus Ckll.

H. bursariæ is a member of the group which includes H. cambagei, H. repertus, H. isthmalis, and H. repertulus.

Halictus repertulus n.sp.

 δ . Length about 5.5 mm.; black, moderately robust, with scanty grevish white hair, not forming distinct bands or spots on the abdomen, though there are small and thin, hardly noticeable, patches at lateral bases of second segment; mandibles with a small cream-coloured spot in the middle, and the apical part red; clypeus shining, minutely and feebly punctured, nearly the apical half very pale yellow; face with short white hair; front dull; flagellum only moderately long, very obscure

reddish beneath; mesothorax shining, finely and rather closely punctured; area of metathorax very short, very minutely plicate; posterior truncation with a conspicuous median pit; tegulæ bright ferruginous; wings dusky hyaline, stigma and nervures reddish sepia; second submarginal cell broad; legs black, with the knees, anterior tibiæ (except a large black patch behind), apices of middle and hind tibiæ, and all the tarsi, clear ferruginous; hind tibiæ and tarsi with much white hair; abdomen shining, extremely finely punctured, hind margins of segments not discoloured; apical plate broad and rounded, red; venter with white hair.

Microscopical characters: Front densely striato-punctate; mesothorax well punctured on a smooth (not tessellate) ground; area of metathorax with vermiform rugæ; second abdominal segment well punctured all over.

Hab.: Sunnybank, Brisbane, Nov. 19, 1913 (*Hacker* 165). Allied to *H. cambagei* Ckll., but the head is not so broad, the mesothorax is more regularly and distinctly punctured, and the area of metathorax is different. It is smaller than *H. repertus* Ckll., with smaller punctures of mesothorax, and shorter and more finely sculptured area of metathorax.

MEGACHILE Latreille.

Megachile cetera Cockerell.

Brisbane, March 30, 1913 (*Hacker* 152). The female is easily distinguished from M. quinquelineata Ckll. by the absence of black hair on hind tarsi.

ALLODAPE Lepeletier.

Allodape bribiensis Cockerell.

Bribie Island, Nov. 2, 1913 (Hacker 166). A very small species.

EXONEURA Smith.

	Abdomen black				 • •	 bo	tanica •	var. ate	rrima	Ckll., n.v.
	Abdomen red				 	 				1.
1.	Face with a large	pale ye	llow n	ıark	 	 				tan Ckll.
	Face all black	· · ·								kll., n. sp.

Exoneura botanica Ckll., var. aterima n. var.

Q. Larger than the type (length fully 5 mm.); abdomen all black, the hind margin of segments not reddened. Considerably smaller than *E. insularis* Ckll., with the tubercles creamy white and the wings not reddened.

Hab.: Brisbane, Sept. 1, 1914 (Hacker 157).

Exoneura tau Cockerell.

 \bigcirc Oxley, Brisbane, Sept. 17, 1914 (*Hacker* 154). The basal segments of the abdomen are red, wholly without black markings.

Exoneura brisbanensis n. sp.

Q. Length about 5 mm.; head and thorax shining black, abdomen rather dark chestnut-red, the basal segment and a broad transverse band on second blackened; face broad (but orbits distinctly converging below), shining, wholly without markings; mandibles black; flagellum thick, clear red beneath, more dusky toward base; tegulæ piceous; wings reddish hyaline, stigma and nervures ferruginous; legs black, with the anterior and middle tarsi obscure red; hind tibiæ and tarsi with coarse black hair on outer side; tubercles margined with creamy white.

Hab.: Brisbane, Sept. 1, 1914 (Hacker 158). Related to E. froggattii Friese and E. concinnula Ckll., but easily known by the black tibiæ.